

CLAIMS:

1. A light-collimating system for collimating light from a light source,
a plurality of elements, each element including a first wall and a second wall,
the first wall and the second wall of each element being spaced with respect to
each other,
5 the first wall of an element and the second wall of an adjacent element
forming a wedge-shaped structure widening in a direction facing away from the light source,
the first wall and the second wall at a side facing the wedge-shaped structure
being provided with a specular reflecting surface.
- 10 2. A light-collimating system as claimed in claim 1, characterized in that the first
wall and the second wall are straight walls.
3. A light-collimating system as claimed in claim 1, characterized in that the first
wall and the second wall are curved, preferably, parabolically-shaped walls.
- 15 4. A light-collimating system as claimed in claim 3, characterized in that the first
wall and the second wall are parabolically-shaped walls.
5. A light-collimating system as claimed in claim 1, 2 or 3, characterized in that
20 the first wall and the second wall of each element are provided on a supporting member at a
side facing away from the light source, and that the supporting member (1) between the first
wall and the second wall of each element is provided with a light-reflecting element
comprising a specular and/or diffuse reflecting material.
- 25 6. A light-collimating system as claimed in claim 1, 2 or 3, characterized in that a
space formed between the first wall and the second wall of each element is provided with a
specular and/or diffuse reflecting material.

7. A light-collimating system as claimed in claim 6, characterized in that the reflecting material is selected from the group formed by aluminum oxide, barium sulfate, calcium-pyrophosphate, titanium oxide and yttrium borate.

5 8. A light-collimating system as claimed in claim 7, characterized in that the reflecting material is mixed with particles of Alon-C.

9. A light-collimating system as claimed in claim 1, 2 or 3, characterized in that the first wall and the second wall are made from glass, metal or plastic.

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10. A light-collimating system as claimed in claim 1, 2 or 3, characterized in that, at the location of the first and second wall facing the light source, the distance d_{sp} between the first wall and the second wall of each element is larger than the wavelength of visible light.

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11. A light-collimating system as claimed in claim 10, characterized in that the distance $d_{sp} \geq 10 \mu\text{m}$.

12. A light-collimating system as claimed in claim 11, characterized in that the
20 distance $d_{sp} \geq 1 \text{ mm}$.

13. A light-collimating system as claimed in claim 11, characterized in that the height h_w of the wedge-shaped structures is in the range $0.5 \times d_{aw} \leq h_w \leq 50 \times d_{aw}$, where d_{aw} is the distance between the first wall and the second wall at the location of the first and second
25 wall facing the light source.

14. A light-collimating system as claimed in claim 1, 2 or 3, characterized in that the light-collimating system further comprises a lens assembly, comprising a plurality of lenses, each lens cooperating with one of the wedge-shaped structures.